

**New Jersey FFA Association, Inc.  
New Jersey Department of Agriculture  
P.O. Box 330, Trenton, NJ 08625**

**TURF MANAGEMENT CAREER DEVELOPMENT EVENT**

**GENERAL RULES**

Career Development Event rules outlined in the State Activity Guide form 7.000 will be followed.

**SCOPE**

The New Jersey FFA Turf Management Career Development Event includes all aspects of the industry in producing, marketing, utilizing, and maintaining turf as well as related products, equipment and services.

**PURPOSE**

To stimulate career interest, encourage proficiency development and recognize excellence in students of turf management through the agricultural education curriculum.

**OBJECTIVES**

<i>PLANT MATERIALS</i>	To demonstrate the ability to identify turf grasses commonly used in New Jersey
<i>PLANT DISORDERS</i>	To demonstrate the ability to identify unhealthy plant conditions due to pests, nutrition or physiological disorders and mechanical or chemical injuries.
<i>CULTURAL PRACTICES</i>	To demonstrate knowledge of the principles and skills involved in propagation, growth requirements, growing techniques, marketing and maintenance of turf.
<i>SUPPLIES AND EQUIPMENT</i>	To demonstrate the ability to identify, select, use and maintain appropriate supplies and equipment for turf management.
<i>INTERPERSONAL RELATIONS</i>	To demonstrate skills in oral and written business communications.
<i>MARKETING</i>	To understand marketing principles and demonstrate proper sales and service skills.
<i>RECORDS AND REPORTS</i>	To demonstrate the ability to prepare accurate and legible records and reports and to interpret business documents.

**EVENT RULES**

1. A team will consist of four members. The three highest individual scores will be totaled from the team score.
2. Under no circumstances will any participant be allowed to touch or handle plant materials or other specimen during event except as specified in certain practicums.
3. Each participant must have a clipboard, at least two No. 2 pencils and a calculator.
4. Official FFA/business dress is required during the event. (Will be held rain or shine)

## EVENT FORMAT

### *PHASE I - GENERAL KNOWLEDGE EXAMINATION*

Twenty-five (25) multiple choice question exam (4 points each) to evaluate the participants knowledge of pesticide use and safety, cultural practices, fertilizers, soil type, irrigation, plant anatomy and proper turf management practices will be given. This phase of the event will be worth 100 points. Time of this phase will be 25 minutes.

### *PHASE II - IDENTIFICATION OF TURF SPECIES, PESTS, EQUIPMENT AND DISORDERS*

Twenty-five (25) specimens (4 points each) to be presented as an intact live specimen, photograph or preserved specimen. Each specimen will be designated by a station number. When the contestant identifies the item, its number is written on the identification list at the corresponding specimen name. When a problem must be presented with an affected plant, a "disorder" label will be with the item to designate identification of a problem rather than a plant name. This phase of the event will be worth 100 points. Time of this phase will be one minute/specimen for a total of 25 minutes.

### *PHASE III - EQUIPMENT PREPARATION, MAINTENANCE, PROBLEM SOLVING AND SAFETY*

Participant will solve five (5) problems (10 points each) dealing with equipment calibration, equipment check for faulty parts, selection of proper equipment for specific job, identification of a turf problem caused by equipment or operator malfunction, selection of proper management practices to withstand stress conditions, proper pesticide label evaluation. A problem situation will be presented with answer choices of possible maintenance needs, corrective actions and/or operating specifications.

This phase of event will be worth 50 points. Time of this phase will be five minutes/problem for a total of 25 minutes.

### *PHASE IV - CUSTOMER RELATIONS, PROBLEM SOLVING AND JOB ESTIMATING*

This phase will be composed of two parts:

**Part One - Site Evaluation** - Participants will be required to measure and evaluate a turf area for a specific property. Site-specific information will be provided on the day of the event. Total point value is 100 points. The value of each correct answer will be 1.5 points – 50 answers - for identification questions and twenty-five (25) points for determining the plot size. Time for Part 1 - Site Evaluation will be 20 minutes.

**Part Two – Problem Solving** - This part will be worth 50 points. Time for this Part 2 - will be 10 minutes.

## SCHOLARSHIP OPPORTUNITY

The three highest scoring individuals in the Turf Management Career Development Event will be eligible for scholarships at Rutgers University if they are accepted and enroll in either the Twenty Week Turf Management Program or as a four-year Rutgers, School of Environmental and Biological Science student with a Turfgrass Management major. The scholarship would be applied towards first year tuition.

**FFA Turf Management Event  
Phase I  
General Knowledge Exam  
(100 points)  
ANSWER SHEET**

Name: \_\_\_\_\_

Chapter: \_\_\_\_\_

- |           |   |
|-----------|---|
| 1. _____  | 14. _____                                   |
| 2. _____  | 15. _____                                   |
| 3. _____  | 16. _____                                   |
| 4. _____  | 17. _____                                   |
| 5. _____  | 18. _____                                   |
| 6. _____  | 19. _____                                   |
| 7. _____  | 20. _____                                   |
| 8. _____  | 21. _____                                   |
| 9. _____  | 22. (1) _____ (2) _____ (3) _____ (4) _____ |
| 10. _____ | 23. (1) _____ (2) _____ (3) _____ (4) _____ |
| 11. _____ | 24. (1) _____ (2) _____ (3) _____ (4) _____ |
| 12. _____ | 25. (1) _____ (2) _____ (3) _____ (4) _____ |
| 13. _____ |   |

For questions 1 – 21 # correct \_\_\_\_\_ X 4 points = \_\_\_\_\_

For questions 22 – 25 # correct \_\_\_\_\_ X 1 point = \_\_\_\_\_

Total score \_\_\_\_\_

(Maximum Points Possible = 100)

\_\_\_\_\_  
Corrected by      Double Checked by

## FFA Turf Management Contest

### Phase II Identification (100 points) ANSWER SHEET

Name: \_\_\_\_\_

Chapter: \_\_\_\_\_

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

11. \_\_\_\_\_

12. \_\_\_\_\_

13. \_\_\_\_\_

14. \_\_\_\_\_

15. \_\_\_\_\_

16. \_\_\_\_\_

17. \_\_\_\_\_

18. \_\_\_\_\_

19. \_\_\_\_\_

20. \_\_\_\_\_

21. \_\_\_\_\_

22. \_\_\_\_\_

23. \_\_\_\_\_

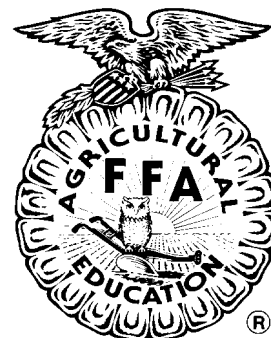
24. \_\_\_\_\_

25. \_\_\_\_\_

**Total Correct \_\_\_\_\_ x 4 = \_\_\_\_\_ Final Score**

(Maximum Points Possible = 100)

Corrected by: \_\_\_\_\_ Checked by: \_\_\_\_\_





**FFA Turf Management Career Development Event  
Phase II Identification (100 points)**

**Insects, Diseases, Turf Species, Physical Disorders, Weeds and Equipment List**

**Physical Disorders**

1. Chemical burn
2. Drought stress
3. Mower Scalping

**Insects**

4. Billbug
5. Chinch Bug
6. Cutworm
7. Grubs
8. Sod Webworm

**Weeds**

9. Annual Bluegrass
10. Black medic
11. Broadleaf plantain
12. Buckhorn plantain
13. Canada Thistle
14. Carpetweed
15. Cinquefoil
16. Common chickweed
17. Common groundsel
18. Crabgrass
19. Dandelion
20. Foxtail
21. Goosegrass
22. Ground Ivy
23. Henbit
24. Knotweed
25. Mouse Ear Chickweed
26. Nimblewill
27. Pennsylvania smartweed/Ladysthumb
28. Poa trivialis
29. Purslane
30. Quackgrass
31. Red sorrel
32. Spurge
33. Velvetgrass
34. White clover
35. Wild Garlic/Onion
36. Yellow Nutsedge
37. Yellow Woodsorrel (Oxalis)

**Turf Species**

38. Bentgrass
39. Bermuda grass
40. Annual Ryegrass
41. Buffalo grass
42. Fine Fescue
43. Kentucky Bluegrass
44. Perennial Ryegrass
45. Tall Fescue
46. Zoysia grass

**Diseases**

47. Brown Patch
48. Dollar Spot
49. Fairy Ring
50. Leaf Spot
51. Powdery Mildew
52. Pythium Blight
53. Red Thread
54. Rust
55. Stripe Smut

**Equipment**

56. Aerator
57. Cup Cutter
58. Broadcast Spreader
59. Drop Spreader
60. Overseeder
61. Reel Mower
62. Respirator
63. Rotary mower
64. Rototiller
65. Sod Cutter
66. Spray Nozzle
67. Sprayer
68. String Trimmer
69. Thatcher
70. Fungicide
71. Herbicide
72. Fertilizer

**FFA Turf Management Event  
Phase III  
Equipment Preparation, Maintenance, Problem Solving, and Safety  
(50 points)  
ANSWER SHEET**

Name: \_\_\_\_\_

Chapter: \_\_\_\_\_

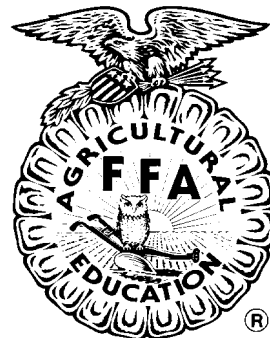
1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

**Total Correct** \_\_\_\_\_ **x** **10** = \_\_\_\_\_ **Final Score**

(Maximum Points Possible = 50)

Corrected by: \_\_\_\_\_

Checked by: \_\_\_\_\_





# FFA TURF CAREER DEVELOPMENT EVENT

## PHASE IV -PART 1 - SITE EVALUATION SHEET

NAME \_\_\_\_\_ CHAPTER \_\_\_\_\_

**Directions:** First determine the total square footage of the plot and then evaluate the plot according to the following areas. Each choice given below must have either the "Yes" or the "No" box checked. Some sections may have more than one "yes" box checked.

**TOTAL SQUARE FEET** \_\_\_\_\_ (25 points)

GRASS TYPE	Yes	No
ANNUAL BLUEGRASS	<input type="checkbox"/>	<input type="checkbox"/>
BENTGRASS	<input type="checkbox"/>	<input type="checkbox"/>
FINE FESCUE	<input type="checkbox"/>	<input type="checkbox"/>
KENTUCKY BLUEGRASS	<input type="checkbox"/>	<input type="checkbox"/>
PERENNIAL RYEGRASS	<input type="checkbox"/>	<input type="checkbox"/>
TALL FESCUE	<input type="checkbox"/>	<input type="checkbox"/>

**THATCH THICKNESS** (only one "yes" the rest "no")

	Yes	No
LESS THAN 1"	<input type="checkbox"/>	<input type="checkbox"/>
1"-2"	<input type="checkbox"/>	<input type="checkbox"/>
MORE THAN 2"	<input type="checkbox"/>	<input type="checkbox"/>

**AVAILABLE SUNLIGHT** (one "yes" the rest "no")

	Yes	No
100% SUN	<input type="checkbox"/>	<input type="checkbox"/>
75% SUN	<input type="checkbox"/>	<input type="checkbox"/>
50% SUN	<input type="checkbox"/>	<input type="checkbox"/>
25% OR LESS SUN	<input type="checkbox"/>	<input type="checkbox"/>

**WATERING PRACTICE**

	Yes	No
PROPER	<input type="checkbox"/>	<input type="checkbox"/>

**SOIL pH**

	Yes	No
PROPER	<input type="checkbox"/>	<input type="checkbox"/>

**MOWING**

	Yes	No
PROPER	<input type="checkbox"/>	<input type="checkbox"/>

**NITROGEN FERTILITY** (only one "yes" the rest "no")

	Yes	No
ADEQUATE	<input type="checkbox"/>	<input type="checkbox"/>
EXCESSIVE	<input type="checkbox"/>	<input type="checkbox"/>
INADEQUATE	<input type="checkbox"/>	<input type="checkbox"/>

**INSECT DAMAGE**

	Yes	No
CINCH BUGS	<input type="checkbox"/>	<input type="checkbox"/>
GRUBS	<input type="checkbox"/>	<input type="checkbox"/>
SOD WEBWORM	<input type="checkbox"/>	<input type="checkbox"/>
NONE ACTIVE	<input type="checkbox"/>	<input type="checkbox"/>

**SOIL TEXTURE (CLOSEST)** (only one "yes" the rest "no")

	Yes	No
CLAY	<input type="checkbox"/>	<input type="checkbox"/>
CLAY LOAM	<input type="checkbox"/>	<input type="checkbox"/>
LOAM	<input type="checkbox"/>	<input type="checkbox"/>
SAND	<input type="checkbox"/>	<input type="checkbox"/>
SANDY LOAM	<input type="checkbox"/>	<input type="checkbox"/>

**WEEDS**

	Yes	No
BROADLEAF PLANTAIN	<input type="checkbox"/>	<input type="checkbox"/>
BUCKHORN PLANTAIN	<input type="checkbox"/>	<input type="checkbox"/>
COMMON CHICKWEED	<input type="checkbox"/>	<input type="checkbox"/>
CRABGRASS	<input type="checkbox"/>	<input type="checkbox"/>
DANDELION	<input type="checkbox"/>	<input type="checkbox"/>
FOXTAIL	<input type="checkbox"/>	<input type="checkbox"/>
GOOSEGRASS	<input type="checkbox"/>	<input type="checkbox"/>
KNOTWEED	<input type="checkbox"/>	<input type="checkbox"/>
MOUSEAR CHICKWEED	<input type="checkbox"/>	<input type="checkbox"/>
NIMBLEWILL (NIMBLEWEED)	<input type="checkbox"/>	<input type="checkbox"/>
PURSLANE	<input type="checkbox"/>	<input type="checkbox"/>
SPURGE	<input type="checkbox"/>	<input type="checkbox"/>
THISTLE	<input type="checkbox"/>	<input type="checkbox"/>
WHITE CLOVER	<input type="checkbox"/>	<input type="checkbox"/>
WILD GARLIC/ ONION	<input type="checkbox"/>	<input type="checkbox"/>
YELLOW NUTSEDGE	<input type="checkbox"/>	<input type="checkbox"/>
YELLOW WOODSORREL (OXALIS)	<input type="checkbox"/>	<input type="checkbox"/>

**DISEASES PRESENT**

	Yes	No
BROWN PATCH	<input type="checkbox"/>	<input type="checkbox"/>
DOLLAR SPOT	<input type="checkbox"/>	<input type="checkbox"/>
LEAF SPOT	<input type="checkbox"/>	<input type="checkbox"/>
RED THREAD	<input type="checkbox"/>	<input type="checkbox"/>
RUST	<input type="checkbox"/>	<input type="checkbox"/>

TOTAL SQUARE FEET \_\_\_\_\_ (25 PTS)

TOTAL # CORRECT \_\_\_\_\_ x 1.5 PTS = (75 PTS)

**TOTAL SCORE = \_\_\_\_\_ (100 PTS)**

**CORRECTED BY:** \_\_\_\_\_

**CHECKED BY:** \_\_\_\_\_



**PHASE IV- PART 2**  
**TURF PROBLEM SOLVING**  
**SAMPLE**

NAME: \_\_\_\_\_ CHAPTER: \_\_\_\_\_

- I. A soil test result shows a turf area has a very low level of phosphorous and a pH of 6.8.

(5 points)

1. Should lime be applied to the area?      Yes      No

(5 points)

2. Which of the following fertilizers would be best to apply?

A. 34-0-0      B. 10-20-10      C. 10-5-20

(20 points)

- II. How much fertilizer having an analysis of 20-5-15 do you need to apply to 10,000 square feet of turf at a rate of 1 pound of nitrogen per 1000 square feet?

\_\_\_\_\_ pounds

(20 points)

- III. You have a choice of two different fertilizers with different prices per 50-pound bag.

A. 16-4-8 at \$18.00 per bag

B. 28-4-10 at \$25.00 per bag

Which fertilizer is the least expensive based on cost per pound of nitrogen?

Fertilizer \_\_\_\_\_ Price per pound of nitrogen \$ \_\_\_\_\_  
(to the nearest cent)

Total Points = \_\_\_\_\_

Scored by: \_\_\_\_\_ Checked by: \_\_\_\_\_



## **Recommended References For Turf Management Career Development Event**

Christians and Agnew, The Mathematics of Turfgrass Maintenance (3<sup>rd</sup> Edition),  
University of Massachussetts.

Compendium of Turfgrass Diseases 3rd edition.  
Smiley, Dernoeden, Clarke 2005. APS Press ISBN 0-89054-330-5

Cooper, Elmer L., Agriscience Fundamentals & Applications, Delmar Publishers,  
Inc. 1990.

Emmons, Turfgrass Science and Management (2<sup>nd</sup> edition), Delmar Publishers, Inc.  
1995.

Ingels, Landscaping: Principles and Practices (5<sup>th</sup> edition), Delmar Publishers, Inc.,  
1997.

“Landscape, Lawn Care & Golf Course Management” CD-ROM, National Council  
for Agricultural Education, 2001.

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Publishers, Inc. 1994.

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Turgeon and Giles, Turfgrass Management, Prentice-Hall, Inc. 1991.

Watschke, Dernoeden and Shellar, Managing Turfgrass Pests, Lewis Publishers,  
1995.

Weeds of Northeast, Cornell Press.